



Please type a plus sign (+) inside this box ☒

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/21 (12-97)
Approved for use through 9/30/00. OMB 0651-0031
Patent and Trademark Office: U.S. Department of Commerce

1646
#7
DMT
10-16-02

TRANSMITTAL FORM (To be used for all correspondence after initial filing)	Application Number	09/786,635
	Filing Date	May 22, 2001
	First Named Inventor	Gerd Schmitz
	Group Art Unit	1646
	Examiner Name	Joseph F. Murphy
Total Number of Pages in This Submission	Attorney Docket Number	Bayer 10,131-KGB

TECH CENTER 1600/2900

RECEIVED
OCT 09 2002

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> To convert a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input checked="" type="checkbox"/> Additional Enclosure(s) - (please identify below):
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> Terminal Disclaimer	- Response to Notice; Diskette containing substitute computer readable form (CRF) copy of the Sequence Listing; copy of Notice to Comply with Requirements for Patent Applications dated 9/13/02.
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application	<input type="checkbox"/> Small Entity Statement	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Request for Refund	
Remarks:		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Theodore A. Gottlieb NORRIS McLAUGHLIN & MARCUS, P.A.
Signature	 Reg. No. 42,597
Date	October 1, 2002

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to : Hon. Assistant Commissioner of Patents, Washington, D.C. 20231.	
Typed or printed name	Vilma I. Fernandez
Signature	Date October 1, 2002

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Hon. Commissioner of Patents, Washington, DC 20231.



#7
Dmt
10-16-02

Atty's Docket No. : Bayer 10,131-KGB

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner For Patents, Washington, D.C. 20231, on October 1, 2002.


Vilma I. Fernandez

TECH CENTER 1600/2900

OCT 09 2002

RECEIVED

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

SERIAL NO.	09/786,635
APPLICANT	Gerd SCHMITZ et al.,
FILED	May 22, 2001
EXAMINER	Joseph Murphy
ART UNIT	1646
FOR	ATP BINDING CASSETTE GENES AND PROTEIN FOR DIAGNOSIS AND TREATMENT OF LIPID DISORDERS AND INFLAMMATORY DISEASES

Hon. Assistant Commissioner of Patents
c/o Examiner Joseph Murphy
Crystal Mall 1
7th Floor Reception
1911 South Clark Street
Arlington, VA 22202

October 13, 2002

**RESPONSE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS
CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE
DISCLOSURES**

Sir:

This communication is in response to the Notice to Comply mailed
on September 13, 2002.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicants request that this be considered a petition therefore. Please charge the required fee to Deposit Account No. 14-1263.

ADDITIONAL FEES

Please charge any further insufficiency of fees, or credit any excess to Deposit Account No. 14-1263.

REMARKS

Enclosed herewith, is a copy of the amended Sequence Listing on a computer readable diskette.

The undersigned affirms that the amended sequence listing in the accompanying diskette does not comprise new matter. In addition, the only changes are those required in the NOTICE, a copy of which is attached.

The nucleotide and amino acid sequences disclosed in the accompanying diskette are believed to be identical to those originally filed.

Respectfully submitted,
NORRIS, McLAUGHLIN & MARCUS



Theodore A. Gottlieb, Ph.D.
Reg. No. 42,597
220 East 42nd Street
New York, NY 10017
telephone (646) 487-5675
facsimile (212) 808-0844



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

Bayer 10/31-KGB

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,635	05/22/2001	Ger. Schmitz	Bayer 10,131-KGB	3503

7590

09/13/2002

Norris McLaughlin & Marcus
30th Floor
220 East 42nd Street
New York, NY 10017

*Sequence dec.
10-13-02*

EXAMINER

MURPHY, JOSEPH F

ART UNIT

PAPER NUMBER

1646

DATE MAILED: 09/13/2002

E

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: ASSISTANT COMMISSIONER FOR PATENTS

Washington, D.C. 20231

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
---------------------------------	-------------	---	---------------------

EXAMINER

ART UNIT	PAPER
----------	-------

6

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Sequence Rules

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached Notice to Comply with Sequence Rules and Raw Sequence Listing Error Report.


Applicant is given ONE MONTH from the mailing date of this letter within which to comply with the sequence rules, 37 CFR 1.821 - 1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). In no case may an applicant extend the period for reply beyond the SIX MONTH statutory period. Direct the reply to the undersigned. Applicant is requested to return a copy of the attached Notice to Comply with the reply.

Advisory Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph F. Murphy whose telephone number is 703-305-7245. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 703-308-6564. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-308-0294 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.


Joseph F. Murphy, Ph. D.
Patent Examiner
Art Unit 1646



RECEIVED

OCT 09 2002

TECH CENTER 1600/2900

Application No. 01 178662**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other: _____

Applicant Must Provide:

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

For PatentIn software help, call (703) 308-6856

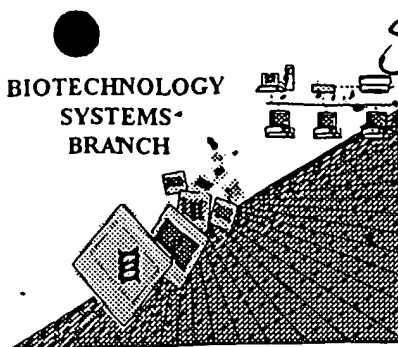
PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE

Applicant copy



RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY
SYSTEMS-
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/786635
Source: PCT 09
Date Processed by STIC: 11/14/01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>



Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 09786635

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY P

- 1 ☐ Wrapped Nucleics
Wrapped Aminos
The number/letter at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to 3; this will prevent "wrapping."
- 2 ☐ Invalid Line Length
The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 ☐ Misaligned Amino
Numbering
The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 ☐ Non-ASCII
The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 ☐ Variable Length
Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 ☐ PatentIn 2.0
"bug"
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 ☐ Skipped Sequences
(OLD RULES)
Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 ☐ Skipped Sequences
(NEW RULES)
Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
<210> sequence id number
<400> sequence id number
000
- 9 ☒ Use of n's or Xaa's
(NEW RULES)
Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents
- 10 ☐ Invalid <213>
Response
Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or Artificial Sequence
- 11 ☐ Use of <220>
Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 ☐ PatentIn 2.0
"bug"
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 ☐ Misuse of n
n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

09786635-052201



PCT09

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/786,635

DATE: 11/14/2001
TIME: 14:04:22

Input Set : A:\Lea33298.app
Output Set: N:\CRF3\11142001\I786635.raw

3 <110> APPLICANT: Bayer AG
5 <120> TITLE OF INVENTION: ATP binding cassette genes and proteins for diagnosis
6 and treatment of lipid disorders and inflammatory
7 diseases
9 <130> FILE REFERENCE: ATP binding cassette genes and protein
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/786,635 *OK*
C--> 12 <141> CURRENT FILING DATE: 2001-03-07
14 <150> PRIOR APPLICATION NUMBER: 101706
15 <151> PRIOR FILING DATE: 1998-09-25
17 <160> NUMBER OF SEQ ID NOS: 54
19 <170> SOFTWARE: PatentIn Ver. 2.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 6880
23 <212> TYPE: DNA
24 <213> ORGANISM: Human
26 <220> FEATURE:
27 <223> OTHER INFORMATION: cDNA of ABCA1 (ABC1)
29 <400> SEQUENCE: 1

**Does Not Comply
Corrected Diskette Needed**

*Must enumerate unknowns
See page 5 of 8.B*

09786635.052201

```
30 caaacatgtc agctgttact ggaagtggcc tggcctctat ttatcttcct gatcctgac 60
31 tctgttcggc tgagctaccc accctatgaa caacatgaat gccattttcc aaataaagcc 120
32 atgccctctg caggaacact tccttgggtt caggggatta tctgtaatgc caacaacccc 180
33 tgtttccgtt acccgactcc tggggaggct cccggagttg ttggaaactt taacaaatcc 240
34 attgtggctc gctgtttctc agatgctcgg aggtctcttt tatacagcca gaaagacacc 300
35 agcatgaagg acatgcgcaa agttctgaga acattacagc agatcaagaa atccagctca 360
36 aacttgaagc ttcaagattt cctgggtggac aatgaaacct tctctgggtt cctgtatcac 420
37 aacctctctc tcccaaagtc tactgtggac aagatgctga gggctgatgt cattctccac 480
38 aaggtatttt tgcaaggcta ccagttacat ttgcaagtc tgtgcaatgg atcaaaatca 540
39 gaagagatga ttcaacttgg tgaccaagaa gtttctgagc tttgtggcct accaaggagg 600
40 aaactggctg cagcagagcg agtacttcgt tccaacatgg acatcctgaa gccaatcctg 660
41 agaactgtaa actctacatc tcccttcccg agcaaggagc tggccgaagc cacaaaaaca 720
42 ttgctgcata gtcttgggac tctggcccag gagctgttca gcatgagaag ctggagtga 780
43 atgcgacagg aggtgatgtt tctgaccaat gtgaacagct ccagctcctc caccctaatc 840
44 taccaggctg tgtctcgtat tgtctgctgg catcccagg gaggggggct gaagatcaag 900
45 tctctcaact ggtatgagga caacaactac aaagccctct ttggaggcaa tggcactgag 960
46 gaagatgctg aaaccttcta tgacaactct acaactcctt actgcaatga tttgatgaag 1020
47 aatttggagt ctagtccctt ttcccgcatt atctggaaag ctctgaagcc gctgctcgtt 1080
48 gggaagatcc tgtatacacc tgacactcca gccacaaggc aggtcatggc tgaggtgaac 1140
49 aagaccttcc aggaactggc tgtgttccat gatctggaag gcatgtggga ggaactcagc 1200
50 cccaagatct ggaccttcat ggagaacagc caagaaatgg acctgtccg gatgctgttg 1260
51 gacagcaggg acaatgacca cttttgggaa cagcagttgg atggcttaga ttggacagcc 1320
52 caagacatcg tggcgttttt ggccaagcac ccagaggatg tccagtccag taatggttct 1380
53 gtgtacacct ggagagaagc tttcaacgag actaaccagg caatccggac catatctcgc 1440
54 ttcattgagt gtgtcaacct gaacaagcta gaaccatag caacagaagt ctggctcatc 1500
55 aacaagtcca tggagctgct ggatgagagg aagttctggg ctggtattgt gttcactgga 1560
56 attactccag gcagcattga gctgccccat catgtcaagt acaagatccg aatggacatt 1620
57 gacaatgtgg agaggacaaa taaaatcaag gatgggtact gggaccctgg tctctgagct 1680
58 gaccccttgg aggacatgcy gtacgtctgg gggggcttcg cctacttgca ggatgtggtg 1740
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,635

DATE: 11/14/2001

TIME: 14:04:22

Input Set : A:\Lea33298.app

Output Set: N:\CRF3\11142001\I786635.raw

```

59 gagcaggcaa tcatacagggt gctgacgggc accgagaaga aaactggtgt ctatatgcaa 1800
60 cagatgccct atccctgtta cgttgatgac atctttctgc gggatgatgag ccggtcaatg 1860
61 cccctcttca tgacgctggc ctggatttac tcagtggctg tgatcatcaa gggcatcgtg 1920
62 tatgagaagg aggcacggct gaaagagacc atgcggatca tgggcctgga caacagcatc 1980
63 ctctggttta gctggttcat tagtagcctc attcctcttc ttgtgagcgc tggcctgcta 2040
64 gtggtcatcc tgaagttagg aaacctgctg ccctacagtg atcccagcgt ggtgtttgtc 2100
65 ttcctgtccg tgtttgctgt ggtgacaatc ctgcagtgtc tcttgattag cacactcttc 2160
66 tccagagcca acctggcagc agcctgtggg ggcacatctc acttcacgct gtacctgcc 2220
67 tacgtcctgt gtgtggcatg gcaggactac gtgggcttca cactcaagat cttcgctagc 2280
68 ctgctgtctc ctgtggcttt tgggtttggc tgtgagtact ttgccctttt tgaggagcag 2340
69 ggcattggag tgcagtggga caacctgttt gagagtctg tggaggaaga tggcttcaat 2400
70 ctaccactt cggctctccat gatgctgttt gacaccttcc tctatgggtg gatgacctgg 2460
71 tacattgagg ctgtctttcc aggcagtagc ggaattccca ggccctggtg ttttcttgc 2520
72 accaagtcct actggtttgg cgaggaaagt gatgagaaga gccaccctgg ttccaaccag 2580
73 aagagaatat cagaaatctg catggaggag gaaccacccc acttgaagct gggcgtgtcc 2640
74 attcagaacc tggtaaaagt ctaccgagat gggatgaagg tggctgtcga tggcctggca 2700
75 ctgaattttt atgagggccca gatcacctcc ttcttgggcc acaatggagc ggggaagacg 2760
76 accaccatgt caatcctgac cgggttggtc ccccgacct cgggcaccgc ctacatcctg 2820
77 ggaaaagaca ttgctctga gatgagcacc atccggcaga acctgggggt ctgtccccag 2880
78 cataacgtgc tgtttgacat gctgactgtc gaagaacaca tctggttcta tgcccgtgt 2940
79 aaagggtctc ctgagaagca cgtgaaggcg gagatggagc agatggccct ggtgttgg 3000
80 ttgccatcaa gcaagctgaa aagcaaaaca agccagctgt cagggtggaat gcagagaaag 3060
81 ctatctgtgg ccttggcctt tgtcggggga tctaagggtg tcattctgga tgaaccaca 3120
82 gctggtgtgg acccttactc ccgcagggga atatgggagc tgctgtgaa ataccgaca 3180
83 ggccgacca ttattctctc tacacaccac atggatgaag cggacgtcct gggggacagg 3240
84 attgccatca tctcccatgg gaagctgtgc tgtgtgggct cctccctgtt tctgaagaac 3300
85 cagctgggaa caggctacta cctgacctg gtcaagaaag atgtggaatc ctccctcagt 3360
86 tctgcagaa acagtagtag cactgtgtca tacctgaaaa aggaggacag tgtttctcag 3420
87 agcagttctg atgctggcct gggcagcgac catgagagtg acacgctgac catcgatgtc 3480
88 tctgctatct ccaacctcat caggaagcat gtgtctgaag cccggtggt ggaagacata 3540
89 gggcatgagc tgacctatgt gctgccatat gaagctgcta aggagggagc ctttgtggaa 3600
90 ctctttcatg agattgatga ccggtctca gacctgggca tttctagtta tggcatctca 3660
91 gagacgacct tggagaat atctctcaag gtggccgaag agagtgggt ggtgctgag 3720
92 acctcagatg gtaccttgcc agcaagacga aacaggcggg ccttcgggga caagcagagc 3780
93 tgtcttcgcc cgttcaactga agatgatgct gctgatccaa atgattctga catagacca 3840
94 gaatccagag agacagactt gctcagtgg atggatggca aagggtccta ccaggtgaaa 3900
95 ggctggaaac ttacacagca acagtttgtg gccctttgt ggaagagact gctaattgcc 3960
96 agacggagtc ggaaggatt tttgtctag attgtcttg cagctgtgtt tgtctgcatt 4020
97 gccctgtgt tcaagctgat cgtgccacc tttggcaagt accccagcct ggaacttcag 4080
98 ccctggatgt acaacgaaca gtacacattt gtcagcaatg atgctcctga ggacacggga 4140
99 accctggaac tcttaaagc cctcaccaa gacctgggt tggggaccg ctgtatggaa 4200
100 ggaaacccaa tccagacac gccctgccag gcaggggagg aagagtggac cactgcccc 4260
101 gttccccaga ccatcatgga cctctccag aatgggaact ggacaatgca gaaccttca 4320
102 cctgcatgcc agttagcag cgacaaaatc aagaagatg tgctgtgtg tccccagg 4380
103 gcaggggggc tgctctctc acaagaaaa caaaacactg cagatattct tcaggacctg 4440
104 acaggaagaa acatttcgga ttatctggtg aagacgtatg tgcagatcat agccaaaagc 4500
105 ttaaagaaca agatctgggt gaatgagtt aggtatggcg gcttttccct ggtgtcagt 4560
106 aatactcaag cacttctcc gagtcaagaa gttaatgatg ccaccaaaca aatgaagaaa 4620
107 cacctaaagc tggccaagga cagttctgca gatcgatttc tcaacagctt gggaagattt 4680

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,635

DATE: 11/14/2001

TIME: 14:04:22

Input Set : A:\Lea33298.app

Output Set: N:\CRF3\11142001\I786635.raw

```

108 atgacaggac tggacaccag aaataatgtc aaggtgtggt tcaataacaa gggctggcat 4740
109 gcaatcagct ctttccctgaa tgtcatcaac aatgccattc tccgggccaa cctgcaaaaag 4800
110 ggagagaacc ctageccatta tgggaattact gctttcaatc atccccctgaa tctcaccaag 4860
111 cagcagctct cagaggtggc tccgatgacc acatcagtgg atgtccctgt gtccatctgt 4920
112 gtcactcttg caatgtcctt cgtcccagcc agctttgtcg tattccctgat ccaggagcgg 4980
113 gtcagcaaag caaaacacct gcagttcatc agtggagtga agcctgtcat ctactggctc 5040
114 tctaattttg tctgggatat gtgcaattac gttgtccctg ccacactggt cattatcatc 5100
115 ttcactctgct tccagcagaa gtcctatgtg tccctccacca atctgcctgt gctagccctt 5160
116 ctacttttgc tgtatgggtg gtcaatcaca cctctcatgt accagcctc ctttgtgttc 5220
117 aagatcccca gcacagccta tgtggtgctc accagcgtga acctcttcat tggcattaat 5280
118 ggcagcgtgg ccacctttgt gctggagctg ttcaccgaca ataagctgaa taatatcaat 5340
119 gatatectga agtccgtgtt cttgatcttc ccacattttt gcctgggacg agggctcatc 5400
120 gacatggtga aaaaccaggc aatggctgat gccctggaaa ggtttgggga gaatcgcttt 5460
121 gtgtcaccat tatcttggga cttggtggga cgaaacctct tcgccatggc cgtggaagg 5520
122 gtggtgttct tctcattac tgttctgac cagtacagat tcttcatcag gccagacct 5580
123 gtaaagtcaa agctatctcc tctgaatgat gaagatgaag atgtgaggcg ggaaagacag 5640
124 agaattcttg atggtggagg ccagaatgac atcttagaaa tcaaggagtt gacgaagata 5700
125 tatagaagga agcgggaagc tgctgttgac aggatttgcg tgggcattcc tctggtgag 5760
126 tgctttgggc tctgggagt taatggggt ggaaaatcat caactttcaa gatgttaaca 5820
127 ggagatacca ctgttaccag aggagatgct ttccttaaca gaaatagtat cttatcaaac 5880
128 atccatgaag tacatcagaa catgggctac tgccctcagt ttgatgccat cacagagctg 5940
129 ttgactggga gagaacacgt ggagttcttt gcccttttga gaggagtccc agagaaagaa 6000
130 gttggcaagg ttggtgagt ggcgattcgg aaactgggccc tegtgaagta tggagaaaaa 6060
131 tatgctggtg actatagtgg aggcaacaaa cgcaagctct ctacagccat ggctttgatc 6120
132 ggcgggcctc ctgtggtgtt tctggatgaa cccaccacag gcatggatcc caaagcccgg 6180
133 cggttcttgt ggaattgtgc cctaagtgtt gtcaaggagg ggagatcagt agtgcttaca 6240
134 tctcatagta tggagaatg tgaagctctt tgcactagga tggcaatcat ggtcaatgga 6300
135 aggttcagggt gccttggcag tgtccagcat ctaaaaaata ggtttggaga tggttataca 6360
136 atagttgtac gaatagcagg gtccaacccg gacctgaagc ctgtccagga tttctttgga 6420
137 cttgcatttc ctggaagtgt tccaaaagag aaacaccgga acatgctaca ataccagctt 6480
138 ccactctcat tatcttctct ggccaggata ttcagcatcc tctcccagag caaaaagcga 6540
139 ctcca'catag aagactactc tgtttctcag acaacacttg accaagtatt tgtgaacttt 6600
140 gccaaggacc aaagtgatga tgaccactta aaagacctct cattacacaa aaaccagaca 6660
141 gtagtggacg ttgcagttct cacatctttt ctacaggatg agaaagtgaa agaaagctat 6720
142 gtatgaagaa tctgtttcat acggggtggc tgaaagtaaa gagggactag actttccttt 6780
143 gcaccatgtg aagtgttgag gagaaaagag ccagaagttg atgtgggaag aagtaaactg 6840
144 gatactgtac tgatactatt caatgcaatg caattcaatg 6880

```

146 <210> SEQ ID NO: 2

147 <211> LENGTH: 2201

148 <212> TYPE: PRT

149 <213> ORGANISM: Human

151 <220> FEATURE:

152 <223> OTHER INFORMATION: Peptide sequence of ABCA1 (ABC1)

154 <400> SEQUENCE: 2

155 Met Pro Ser Ala Gly Thr Leu Pro Trp Val Gln Gly Ile Ile Cys Asn

156 1 5 10 15

158 Ala Asn Asn Pro Cys Phe Arg Tyr Pro Thr Pro Gly Glu Ala Pro Gly

159 20 25 30

161 Val Val Gly Asn Phe Asn Lys Ser Ile Val Ala Arg Leu Phe Ser Asp

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,635

DATE: 11/14/2001

TIME: 14:04:22

Input Set : A:\Lea33298.app

Output Set : N:\CRF3\11142001\I786635.raw

```

162          35          40          45
164 Ala Arg Arg Leu Leu Leu Tyr Ser Gln Lys Asp Thr Ser Met Lys Asp
165          50          55          60
167 Met Arg Lys Val Leu Arg Thr Leu Gln Gln Ile Lys Lys Ser Ser Ser
168 65          70          75          80
170 Asn Leu Lys Leu Gln Asp Phe Leu Val Asp Asn Glu Thr Phe Ser Gly
171          85          90          95
173 Phe Leu Tyr His Asn Leu Ser Leu Pro Lys Ser Thr Val Asp Lys Met
174          100          105          110
176 Leu Arg Ala Asp Val Ile Leu His Lys Val Phe Leu Gln Gly Tyr Gln
177          115          120          125
179 Leu His Leu Thr Ser Leu Cys Asn Gly Ser Lys Ser Glu Glu Met Ile
180          130          135          140
182 Gln Leu Gly Asp Gln Glu Val Ser Glu Leu Cys Gly Leu Pro Arg Glu
183 145          150          155          160
185 Lys Leu Ala Ala Ala Glu Arg Val Leu Arg Ser Asn Met Asp Ile Leu
186          165          170          175
188 Lys Pro Ile Leu Arg Thr Leu Asn Ser Thr Ser Pro Phe Pro Ser Lys
189          180          185          190
191 Glu Leu Ala Glu Ala Thr Lys Thr Leu Leu His Ser Leu Gly Thr Leu
192          195          200          205
194 Ala Gln Glu Leu Phe Ser Met Arg Ser Trp Ser Asp Met Arg Gln Glu
195          210          215          220
197 Val Met Phe Leu Thr Asn Val Asn Ser Ser Ser Ser Ser Thr Gln Ile
198 225          230          235          240
200 Tyr Gln Ala Val Ser Arg Ile Val Cys Gly His Pro Glu Gly Gly Gly
201          245          250          255
203 Leu Lys Ile Lys Ser Leu Asn Trp Tyr Glu Asp Asn Asn Tyr Lys Ala
204          260          265          270
206 Leu Phe Gly Gly Asn Gly Thr Glu Glu Asp Ala Glu Thr Phe Tyr Asp
207          275          280          285
209 Asn Ser Thr Thr Pro Tyr Cys Asn Asp Leu Met Lys Asn Leu Glu Ser
210          290          295          300
212 Ser Pro Leu Ser Arg Ile Ile Trp Lys Ala Leu Lys Pro Leu Leu Val
213 305          310          315          320
215 Gly Lys Ile Leu Tyr Thr Pro Asp Thr Pro Ala Thr Arg Gln Val Met
216          325          330          335
218 Ala Glu Val Asn Lys Thr Phe Gln Glu Leu Ala Val Phe His Asp Leu
219          340          345          350
221 Glu Gly Met Trp Glu Glu Leu Ser Pro Lys Ile Trp Thr Phe Met Glu
222          355          360          365
224 Asn Ser Gln Glu Met Asp Leu Val Arg Met Leu Leu Asp Ser Arg Asp
225          370          375          380
227 Asn Asp His Phe Trp Glu Gln Gln Leu Asp Gly Leu Asp Trp Thr Ala
228 385          390          395          400
230 Gln Asp Ile Val Ala Phe Leu Ala Lys His Pro Glu Asp Val Gln Ser
231          405          410          415
233 Ser Asn Gly Ser Val Tyr Thr Trp Arg Glu Ala Phe Asn Glu Thr Asn
234          420          425          430

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,635

DATE: 11/14/2001

TIME: 14:04:22

Input Set : A:\Lea33298.app

Output Set: N:\CRF3\11142001\I786635.raw

```

236 Gln Ala Ile Arg Thr Ile Ser Arg Phe Met Glu Cys Val Asn Leu Asn
237      435      440      445
239 Lys Leu Glu Pro Ile Ala Thr Glu Val Trp Leu Ile Asn Lys Ser Met
240      450      455      460
242 Glu Leu Leu Asp Glu Arg Lys Phe Trp Ala Gly Ile Val Phe Thr Gly
243 465      470      475      480
245 Ile Thr Pro Gly Ser Ile Glu Leu Pro His His Val Lys Tyr Lys Ile
246      485      490      495
248 Arg Met Asp Ile Asp Asn Val Glu Arg Thr Asn Lys Ile Lys Asp Gly
249      500      505      510
251 Tyr Trp Asp Pro Gly Pro Arg Ala Asp Pro Phe Glu Asp Met Arg Tyr
252      515      520      525
254 Val Trp Gly Gly Phe Ala Tyr Leu Gln Asp Val Val Glu Gln Ala Ile
255      530      535      540
257 Ile Arg Val Leu Thr Gly Thr Glu Lys Lys Thr Gly Val Tyr Met Gln
258 545      550      555      560
260 Gln Met Pro Tyr Pro Cys Tyr Val Asp Asp Ile Phe Leu Arg Val Met
261      565      570      575
263 Ser Arg Ser Met Pro Leu Phe Met Thr Leu Ala Trp Ile Tyr Ser Val
264      580      585      590
266 Ala Val Ile Ile Lys Gly Ile Val Tyr Glu Lys Glu Ala Arg Leu Lys
267      595      600      605
269 Glu Thr Met Arg Ile Met Gly Leu Asp Asn Ser Ile Leu Trp Phe Ser
270      610      615      620
272 Trp Phe Ile Ser Ser Leu Ile Pro Leu Leu Val Ser Ala Gly Leu Leu
273 625      630      635      640
275 Val Val Ile Leu Lys Leu Gly Asn Leu Leu Pro Tyr Ser Asp Pro Ser
276      645      650      655
278 Val Val Phe Val Phe Leu Ser Val Phe Ala Val Val Thr Ile Leu Gln
279      660      665      670
281 Cys Phe Leu Ile Ser Thr Leu Phe Ser Arg Ala Asn Leu Ala Ala Ala
282      675      680      685
284 Cys Gly Gly Ile Ile Tyr Phe Thr Leu Tyr Leu Pro Tyr Val Leu Cys
285      690      695      700
287 Val Ala Trp Gln Asp Tyr Val Gly Phe Thr Leu Lys Ile Phe Ala Ser
288 705      710      715      720
290 Leu Leu Ser Pro Val Ala Phe Gly Phe Gly Cys Glu Tyr Phe Ala Leu
291      725      730      735
293 Phe Glu Glu Gln Gly Ile Gly Val Gln Trp Asp Asn Leu Phe Glu Ser
294      740      745      750
296 Pro Val Glu Glu Asp Gly Phe Asn Leu Thr Thr Ser Val Ser Met Met
297      755      760      765
299 Leu Phe Asp Thr Phe Leu Tyr Gly Val Met Thr Trp Tyr Ile Glu Ala
300      770      775      780
302 Val Phe Pro Gly Gln Tyr Gly Ile Pro Arg Pro Trp Tyr Phe Pro Cys
303 785      790      795      800
305 Thr Lys Ser Tyr Trp Phe Gly Glu Glu Ser Asp Glu Lys Ser His Pro
306      805      810      815
308 Gly Ser Asn Gln Lys Arg Ile Ser Glu Ile Cys Met Glu Glu Glu Pro

```

09/786635

<210> 3
 <211> 1130
 <212> DNA
 <213> Human

<220>
 <223> human cDNA of ABCB9

<400> 3
 gccaatgnca cggtttcatc atggaactcc aggacggcta cagcacagag acaggggaga 60
 agggcgccca gctgtcaggt ggccagaagc agcgggtggc catggccgng gctctgggtgc 120
 ggaaccccc agtcctcatc ctggatgaag ccaccagcgc tttggatgcc gagagcgagt 180
 atctgatcca gcaggccatc catggcaacc tgtcagaagc acacggtact catcatcgcg 240
 caccggctga gcaccgtgga gcacgcgcac ctcatgtgg tgctggacaa gggccgcgta 300
 gtgcagcagg gcacccacca gcagcttget tgcccaggg cgggctttta cggcaagc 360
 gttgcagcgg cagatgtggg gtttcaaggc cgcagaattc acagctggcc acaacgagc 420
 tgtagccaac gggtcacaag gcctgatggg gggccccctc ttcgcccggg ggcagaggac 480
 ccggtgcctg cctggcagat gtgcccacgg aggtttccag ctgcccctacc gagcccaggc 540
 ctgcagcaact gaaagacgac ctgccatgtc ccatgatac cgtctntgca atcttgcccc 600
 tggctccctgc cccattccca gggcactctt acccennnc gggggatgtc caagagcata 660
 gtcctctccc catacccctc cagagaaggg gcttccctgt ccggaggag acacggggaa 720
 cgggattttc cgtctctccc tcttgccagc tctgtgagtc tggccagggc gggtagggag 780
 cgtggagggc atctgtctgc caattgcccg ctgccaatct aagccagtct cactgtgacc 840
 acacgaaacc tcaactgggg gagtgaggag ctggccaggt ctggaggggc ctcaggtgcc 900
 cccagcccgg caccagctt tcgcccctcg tcaatcaacc cctggctggc agccgccctc 960
 cccacaccgg cccctgtgct ctgctgtctg gaggccacgt ggacctcat gagatgcatt 1020
 ctcttctgtc tttggtggan gggatgggtc aaagcccagg atctggcttt gccagagggt 1080
 gcaacatggt gagagaaccc ggtcaataaa gtgtactacc tcttaccct 1130

Unknown must be enumerated in fields
 221, 222 and 223

Glokan

The type of errors shown exist throughout
 the Sequence Listing. Please check subsequent
 sequences for similar errors.

09786635.052201

VERIFICATION SUMMARY

DATE: 11/14/2001

PATENT APPLICATION: US/09/786,635

TIME: 14:04:23

Input Set : A:\Lea33298.app

Output Set: N:\CRF3\11142001\I786635.raw

L:11 M:270 C: Current Application Number differs, Replaced Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:579 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:579 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:579 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:580 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:580 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:580 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:584 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:584 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:584 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:588 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:588 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:589 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:589 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:589 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:596 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:596 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:596 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:623 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:4
L:623 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:4
L:623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:624 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:4
L:624 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:4
L:624 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:1205 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:13
L:1205 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:13
L:1205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:1212 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:13
L:1212 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:13
L:1212 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:1213 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:13
L:1213 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:13
L:1213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:1214 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:13
L:1214 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:13
L:1214 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:1577 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:20
L:1577 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:20
L:1577 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1625 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:20
L:1625 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:20
L:1625 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1720 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:25
L:1720 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:25
L:1720 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25
L:1986 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/786,635

DATE: 11/14/2001

TIME: 14:04:23

Input Set : A:\Lea33298.app

Output Set: N:\CRF3\11142001\I786635.raw

L:1986 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:1986 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1988 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:1988 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:1988 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1990 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:1990 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:1990 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1993 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:1993 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:1993 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1994 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:1994 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:1994 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1995 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:1995 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:1995 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:2013 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:2013 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:2013 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:2014 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:31
L:2014 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:31
L:2014 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:2289 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:54
L:2289 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:54
L:2289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2291 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:54
L:2291 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:54
L:2291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2296 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2316 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:2317 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54